UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/805,002	03/19/2004	Masashi Yokomori	42478-3817	7786

21611 7590 07/27/2004

SNELL & WILMER LLP
1920 MAIN STREET
SUITE 1200
IRVINE, CA 92614-7230

EXAMINER	
SHECHTMAN, SEAN P	

ART UNIT	PAPER NUMBER
2125	

DATE MAILED: 07/27/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)
	10/805,002	YOKOMORI ET AL.
	Examiner	Art Unit
	Sean P. Shechtman	2125

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *14 June 2004*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-6 and 10-14* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☐ Claim(s) *1-6 and 10-14* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☒ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *19 March 2004* is/are: a)☐ accepted or b)☒ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☒ Certified copies of the priority documents have been received in Application No. 10/164,208.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date *3/19/04*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

1. Claims 1-6 and 10-14 are presented for examination.

Priority

2. Acknowledgment is made of applicant's claim for foreign priority under 35 U.S.C. 119(a)-(d). The certified copy has been filed in parent Application No. 10/164,208, filed on June 6th 2002.

3. This application filed under former 37 CFR 1.62 lacks the necessary reference to the prior application. A statement of the current status of the parent nonprovisional application(s) should be entered following the title of the invention or as the first sentence of the specification.

Information Disclosure Statement

4. The information disclosure statement filed March 19th 2004 fails to comply with 37 CFR 1.98(a)(2), which requires a legible copy of each U.S. and foreign patent; each publication or that portion which caused it to be listed; and all other information or that portion which caused it to be listed. It has been placed in the application file, but the information referred to therein has not been considered.

Drawings

5. The drawings are objected to under 37 CFR 1.83(a). The drawings must show every feature of the invention specified in the claims. Therefore, the "the most recently" acquired NC data (claim 1), and differences between the production schedule and currently held NC data (claims 2 and 10) must be shown or the feature(s) canceled from the claim(s). No new matter should be entered.

Corrected drawing sheets are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as "amended." If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. The replacement sheet(s) should be labeled "Replacement Sheet" in the page header (as per 37 CFR 1.84(c)) so as not to obstruct any portion of the drawing figures. If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Specification

6. The title of the invention is not descriptive. A new title is required that is clearly indicative of the invention to which the claims are directed.

Claim Rejections - 35 USC § 112

The following is a quotation of the first paragraph of 35 U.S.C. 112:

> The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

7. Claim 1 is rejected under 35 U.S.C. 112, first paragraph, because the specification, while being enabling for NC data management of different versions and a difference function to fetch two pieces of data and output the difference between the two pieces of data (page 22 and page 26

of the instant specification), does not reasonably provide enablement for outputting the difference between generated data and NC data that has been acquired the most recently. The specification does not enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make or use the invention commensurate in scope with these claims.

Examiner respectfully submits that the specification fails to reasonably provide enablement for the terms "the most recently" acquired NC data. For example, in what time frame was most recently acquired NC data acquired and when would acquired NC data be considered not the most recent?

8. Claims 2-6 and 10-14 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the enablement requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention.

Examiner respectfully submits that the instant specification fails to provide enablement for a means to obtain differences between the production schedule and currently held NC data.

The instant specification teaches a difference display function that fetches data in terms of production parameters and outputs a display showing the difference between the two pieces of data, wherein this data is in terms of production parameters such as data type (Fig. 6A, pages 22-23). The instant specification goes on to provide for a display showing the difference between two pieces of data, wherein the data is in terms of some code or NC data from files of two versions.

The examiner respectfully asserts that the difference function taught by applicant can, at most, provide for obtaining the difference between two sets of data of the same type. However,

the specification is silent as how to provide for obtaining the difference between two sets of data of the different types, namely, schedule data and NC data. The specification does not enable any person skilled in the art to which it pertains to make or use a means for obtaining the difference between a schedule and NC data.

The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

9. Claims 1-6 and 10-14 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claims 2 and 10 recite the limitation "each production parameter" in lines 10 and 8 respectively. Claims 3 and 11 recite the limitation "each production item" in line 2. Claims 3 and 11 recite the limitation "each version of each production item" in line 2. Claims 3 and 11 recite the limitation " each production parameter of a version of the currently held NC data " in lines 6-7. Claim 1 recites the limitation "NC data ... acquired the most recently" in lines 12-13. There is insufficient antecedent basis for these limitations in the claims.

Claims 6 and 14 recite the limitation of "the NC data", however, claims 10-13, from which claim 14 depends, recite the limitations of acquired NC data and currently held NC data. Therefore, it is not clear which NC data is "the NC data".

10. Due to the number of 35 USC § 112 rejections, the examiner has provided a number of examples of the claim deficiencies in the above rejections, however, the list of rejections may not be all inclusive. Applicant should refer to these rejections as examples of deficiencies and

should make all the necessary corrections to eliminate the 35 USC § 112 problems and place the claims in proper format.

11. Due to the vagueness and a lack of clear definition of the terminology and phrases used in the specification and claims, the claims have been treated on their merits as best understood by the examiner.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

12. Claims 1-3 and 10-11 are rejected under 35 U.S.C. 103(a) as being unpatentable over WO97/34207 to Kamiguchi in view of U.S. Pat. No. 5,796,616 to Hamuro.

Referring to claims 1, 2, and 10, Kamiguchi teaches an NC data management method and system for use in a production system including a production line being a series of a plurality of pieces of production equipment (Fig. 1, elements 4, 5, 6, etc, etc; Page 3, lines 11-18), the NC data management method and system comprising:

a LAN port that conducts on-line communications (Fig. 11, ONLINE) with a scheduling apparatus (Page 48, lines 10-20) and each piece of the production equipment via a local-area network (See Fig. 1);

a production schedule acquiring step for acquiring a production schedule from a scheduling apparatus (Page 48, lines 10-20; Page 34, lines 8-14);

an NC data acquiring step for acquiring NC data used for operating each piece of the production equipment (Fig. 12; Page 35, lines 1-12); and

a difference obtaining step for obtaining, in terms of each production parameter for each piece of the production equipment, differences between the production schedule and currently held NC data (See Fig. 11 below, and page 34, lines 20-25).

an NC management apparatus that is connected with each piece of the production equipment via a local-area network and acquires therefrom NC data used for operating each piece of the production equipment (Page 10-11); and

a scheduling apparatus that generates a production schedule and transmits the generated production schedule to the NC management apparatus via the local-area network, wherein the NC management apparatus generates, for each piece of the production equipment, data that is required to perform production according to the production schedule, obtains, for each piece of the production equipment, differences between current NC data that has been acquired the most recently and the generated data, and outputs the obtained differences (See Fig. 11 below, and page 34, lines 20-25).

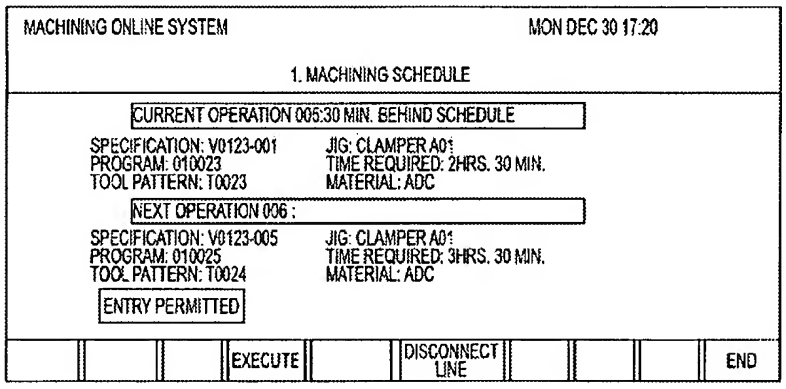

FIG. 11

Kamiguchi clearly teaches a acquiring a machining schedule (Fig. 11; Page 34, lines 22-25). Kamiguchi clearly teaches acquiring a CNC program for operating the pieces of production equipment (Fig. 12; Page 35, lines 1-12). Kamiguchi clearly teaches and shows informing an operator of the difference between the scheduled operation and the currently held NC data, (Page 34, lines 20-25), wherein figure 11 above clearly shows this difference in terms various production parameters such as, specification, program, required time, etc, etc.

Referring to claims 3 and 11, Kamiguchi teaches the NC data management above, wherein the production schedule is generated for each version of each production item, each production schedule showing a version of a production item (Fig. 11, V0123-001 and V0123-005), the NC data acquiring step acquires NC data of a version (Fig. 11), and the difference obtaining step obtains differences between the production schedule and currently held NC data, in terms of each production parameter of a version of the currently held NC data (Fig. 11).

Referring to claims 1, 2, and 10, Kamiguchi broadly teaches a factory automation network applicable to a wide variety of machining centers (Pages 10-11) and, while Kamiguchi clearly teaches a production line with a series of a plurality of pieces of production equipment (See cover figure), Kamiguchi fails to teach that each piece of production equipment has a parts supply unit.

The recitation of each piece of production equipment having a parts supply unit has not been given patentable weight because the recitation occurs in the preamble. A preamble is generally not accorded any patentable weight where it merely recites the purpose of a process or the intended use of a structure, and where the body of the claim does not depend on the preamble

for completeness but, instead, the process steps or structural limitations are able to stand alone. See *In re Hirao*, 535 F.2d 67, 190 USPQ 15 (CCPA 1976) and *Kropa v. Robie*, 187 F.2d 150, 152, 88 USPQ 478, 481 (CCPA 1951).

Furthermore, examiner respectfully submits that the parts supply unit required by the preamble is not functionally related to, or required to be used by any other limitation/element in the body of any claim currently presented for examination. Therefore, even if the preamble were accorded any patentable weight, the body of the claims certainly do not depend on the portion of the preamble reciting "a parts supply unit" for completeness but, instead, the process steps or structural limitations are certainly able to stand alone

However, referring to claims 1, 2, and 10, Hamuro teaches analogous art, wherein Hamuro teaches a piece of production equipment has a parts supply unit (Abstract and claims of '616).

Therefore, it would have been obvious to one of ordinary skill in the art at the time that the invention was made to combine the teachings of Hamuro with the teachings of Kamiguchi.

One of ordinary skill in the art would have been motivated to combine these references because Hamuro teaches a system for automatically replenishing chips for a production machine that results in a substantial improvement in operation efficiency (Col. 7, lines 26-34 of '616). Furthermore, Hamuro teaches a system that eliminates the need to operate the automatic replenishing apparatus at high speeds because sufficient time is available (Col. 7, lines 34-64 of '616).

13. Claims 1-6 and 10-14 are rejected under 35 U.S.C. 103(a) as being unpatentable over WO97/34207 to Kamiguchi in view of U.S. Pat. No. 5,822,210 to Kobayashi (IDS 3/19/04).

Referring to claims 1, 2, and 10, Kamiguchi teaches an NC data management method and system for use in a production system including a production line being a series of a plurality of pieces of production equipment (Fig. 1, elements 4, 5, 6, etc, etc; Page 3, lines 11-18), the NC data management method and system comprising:

a LAN port that conducts on-line communications (Fig. 11, ONLINE) with a scheduling apparatus (Page 48, lines 10-20) and each piece of the production equipment via a local-area network (See Fig. 1);

a production schedule acquiring step for acquiring a production schedule from a scheduling apparatus (Page 48, lines 10-20; Page 34, lines 8-14);

an NC data acquiring step for acquiring NC data used for operating each piece of the production equipment (Fig. 12; Page 35, lines 1-12); and

a difference obtaining step for obtaining, in terms of each production parameter for each piece of the production equipment, differences between the production schedule and currently held NC data (See Fig. 11 below, and page 34, lines 20-25).

an NC management apparatus that is connected with each piece of the production equipment via a local-area network and acquires therefrom NC data used for operating each piece of the production equipment (Page 10-11); and

a scheduling apparatus that generates a production schedule and transmits the generated production schedule to the NC management apparatus via the local-area network, wherein the NC management apparatus generates, for each piece of the production equipment, data that is

required to perform production according to the production schedule, obtains, for each piece of the production equipment, differences between current NC data that has been acquired the most recently and the generated data, and outputs the obtained differences (See Fig. 11 above, and page 34, lines 20-25).

Referring to claims 3 and 11, Kamiguchi teaches the NC data management above, wherein the production schedule is generated for each version of each production item, each production schedule showing a version of a production item (Fig. 11, V0123-001 and V0123-005), the NC data acquiring step acquires NC data of a version (Fig. 11), and the difference obtaining step obtains differences between the production schedule and currently held NC data, in terms of each production parameter of a version of the currently held NC data (Fig. 11).

Referring to claims 5 and 13, Kamiguchi teaches the NC data management above, further comprising a display step that displays the differences obtained by the difference obtaining step (Fig. 11).

Referring to claims 1, 2, and 10, Kamiguchi broadly teaches a factory automation network applicable to a wide variety of machining centers (Pages 10-11) and, while Kamiguchi clearly teaches a production line with a series of a plurality of pieces of production equipment (See cover figure), Kamiguchi fails to teach that each piece of production equipment has a parts supply unit.

The recitation of each piece of production equipment having a parts supply unit has not been given patentable weight because the recitation occurs in the preamble. A preamble is generally not accorded any patentable weight where it merely recites the purpose of a process or

the intended use of a structure, and where the body of the claim does not depend on the preamble for completeness but, instead, the process steps or structural limitations are able to stand alone. See *In re Hirao*, 535 F.2d 67, 190 USPQ 15 (CCPA 1976) and *Kropa v. Robie*, 187 F.2d 150, 152, 88 USPQ 478, 481 (CCPA 1951).

Furthermore, examiner respectfully submits that the parts supply unit required by the preamble is not functionally related to, or required to be used by any other limitation/element in the body of any claim currently presented for examination. Therefore, even if the preamble were accorded any patentable weight, the body of the claims certainly do not depend on the portion of the preamble reciting "a parts supply unit" for completeness but, instead, the process steps or structural limitations are certainly able to stand alone

However, referring to claims 1, 2, and 10, Kobayashi teaches analogous art, wherein Kobayashi teaches a manufacturing management system and method (Title; Abstract line 1 of '210) for controlling a production line, said line having a series of a plurality of pieces of production equipment (See Fig. 2 of '210) each of which has a parts supply unit (See Fig. 2, elements 2, 3, 11, 32; Col. 38, lines 29-31; Col. 1, lines 31-68; Col. 5, lines 1-17; Col. 6, lines 38-57; Col. 9, lines 50-67; Col. 10, lines 13-49; Col. 11; Col. 13, lines 1-20 of '210).

Referring to claims 4 and 12, Kobayashi teaches the NC data management above, wherein the production line is used to mount parts onto a circuit board, and each production parameter includes a production line ID, a production equipment ID, an effective date, a parts number ID, and an update date (Figs. 16; Col. 12, lines 21-41).

Referring to claims 6 and 14, Kobayashi teaches the NC data management above, wherein the NC data contains an NC program showing a parts mounting position, a parts

arrangement program, a board program, and a parts library showing conditions for mounting parts (Fig. 20; Col. 8, lines 24-28, and Col. 18, lines 63-68).

Therefore, it would have been obvious to one of ordinary skill in the art at the time that the invention was made to combine the teachings of Kobayashi with the teachings of Kamiguchi.

One of ordinary skill in the art would have been motivated to combine these references because Kobayashi teaches a manufacturing management system having set-up support for performing set up in a highly efficient manner (Col. 1, lines 7-9 of '210). Further advantages of Kobayashi are directed toward using parts wheels for accurately and efficiently mounting parts (Col. 35, lines 21-30 of '210). Furthermore, Kobayashi teaches efficient arrangement of parts reels (Col. 36, liens 4-13 of '210). Further still, Kobayashi teaches efficient allocation of parts reels to machines (Col. 36, lines 26-39 of '210).

Conclusion

14. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Sean P. Shechtman whose telephone number is (703) 305-7798. The examiner can normally be reached on 9:30am-6:00pm, M-F.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Leo P. Picard can be reached on (703) 308-0538. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

SPS

Sean P. Shechtman

July 22, 2004

Albert W. Paladini 7-27-04
ALBERT W. PALADINI
PRIMARY EXAMINER